



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------------|------------------|
| 10/816,063 | 03/31/2004 | Hitoshi Yamamoto | 2271/71538 | 8897 |
| 23432 | 7590 | 12/21/2005 | | |
| COOPER & DUNHAM, LLP 1185 AVENUE OF THE AMERICAS NEW YORK, NY 10036 | | | EXAMINER MISIURA, BRIAN THOMAS | |
| | | | ART UNIT 2112 | PAPER NUMBER |
| DATE MAILED: 12/21/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/816,063 | Applicant(s) YAMAMOTO ET AL. | |
| | Examiner Brian T. Misiura | Art Unit 2112 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-20, 22-31, 33-66, 68-70 and 72-74 is/are rejected.
- 7) ☒ Claim(s) 10, 21, 32, 67, 71 and 75 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/31/2004</u> | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Specification

The disclosure is objected to because of the following informalities: typographical errors. In paragraph 123, line 8; USB hub is first referenced using numeral **458** and secondly using **480**. The examiner believes the correct numeral is **480**, since that numeral is used in figure 13. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims are 1, 2, 4, 12, 13, 15, 23, 24, 26, 34, 35, 37, 44, 45, 47, 54, 55, 57 rejected under 35 U.S.C. 102(b) as being anticipated by Pletl et al. U.S. PN. 5,920,731.
2. Per Claims 1, 12, 23, 34, 44, 54, Pletl discloses: a PC card control apparatus, comprising:
 - a PC card connector configured to provide connections for connecting one of a first PC card compliant with specific card standards (column 6 lines 11-14, figures 1 and 2, reference numeral 101) and a card-adapting card for connecting a second PC card compliant with a different card standard to the PC card control apparatus (column 6 lines 44-45, figure 2 numerals 101 and 200);
 - a card detector configured to detect connection of the card-adapting card to the PC card control apparatus and to subsequently output a detection signal (column 7 lines 2-5, figure 2);

Art Unit: 2112

- and an interconnection switching circuit configured to switch the connections of the PC card connector to connect the PC card connector to a bus interface dedicated to the second card upon receiving the detection signal from the card detector (column 7 lines 5-11, figure 2).
3. Per Claims 2, 13, 24, 35, 45, 55, Pletl discloses the PC card control apparatus according to claim 1, wherein the specific card standards include a PCMCIA standard (column 6 lines 11-12, figures 1 and 2).
4. Per Claims 4, 15, 26, 37, 47, 57, Pletl discloses the PC card control apparatus according to claim 1, wherein the interconnection switching circuit includes an analog switch (column 7 lines 12-17, figure 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 2112

5. Claims 3, 5, 14, 16, 25, 27, 36, 38, 46, 48, 56, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pletl et al. U.S. PN 5,920,731 in view of Mowery et al. U.S. PN 6,898,766.

6. Per Claims 3, 14, 25, 36, 46, 56, Pletl does not disclose: the PC card control apparatus according to claim 1, wherein the second PC card is compatible with one of a USB2.0 bus interface and a PCIeexpress bus interface.

However, Mowery discloses the PC card control apparatus according to claim 1, wherein the second PC card is compatible with one of a USB2.0 bus interface and a PCIeexpress bus interface (column 4, lines 4-22).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Mowery into the system of Pletl to provide a larger number of bus standards, therefore allowing the invention to be compatible with more systems.

- The modification would have been obvious because one having ordinary skill in the art would want to have as many bus interface standards be compatible as possible to allow the invention to be compatible with as many systems as possible.

7. Per Claims 5, 16, 27, 38, 48, 58, Pletl does not disclose the PC card control apparatus according to claim 1, wherein the interconnection switching circuit includes a USB hub.

However, Pletl does disclose the PC card control apparatus according to claim 1, wherein the interconnection switching circuit includes an analog switch (column 7 lines 12-17, figure 2).

Art Unit: 2112

According to the applicants specification, paragraph [123] states "The USB hub 480 replaces the analog switch 140 embedded in the PC card control apparatus 111 in FIG. 2 and performs a same operation as the analog switch 140. Since the USB hub 480 is easily purchasable, the PC card control apparatus 411 may be made at low cost."

Therefore, due to the applicant stating that the analog switch and USB hub perform the same operation, and that the substituting a USB hub for an analog switch would be cheaper, this shows that the modification would have been obvious because one having ordinary skill in the art would want to make a product for the lowest possible price in order to make the most profit from its product

8. Claims 6-9, 11, 17-20, 22, 28-31, 33, 39-43, 49-53, 59-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pletl et al. U.S. PN 5,920,731 in view of Maclaren et al. U.S. PN 5,930,496.

Per claims 6, 17, 28, 39, 49, 59, Pletl does not disclose: The PC card control apparatus according to claim 1, further comprising: a power supply voltage switching circuit configured to switch power supply voltages including first and second power supply voltages supplied to the PC card connector based on the detection signal.

However, Maclaren discloses: The PC card control apparatus according to claim 1, further comprising:

- a power supply voltage switching circuit (figure 3, numerals 170 and 172) configured to switch power supply voltages including first and second power supply voltages supplied to the PC card connector based on the detection signal (column 11 line 46 – column 12 line 13, figures 3-6).
- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Maclaren into the

Art Unit: 2112

system of Pletl to choose a power supply voltage to be supplied to a card based on what type of card it is.

- The modification would have been obvious because one having ordinary skill in the art would want to choose a power supply voltage to be supplied to a card based on what type of card it is.

9. Per claims 7, 18, 29, 40, 50, 60, Pletl does not disclose: The PC card control apparatus according to claim 6, wherein the first power supply voltage is 3.3 volts and the second power supply voltage is 5 volts.

However, Maclaren discloses: The PC card control apparatus according to claim 6, wherein the first power supply voltage is 3.3 volts (figure 3 numeral 172) and the second power supply voltage is 5 volts (figure 3 numeral 170).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Maclaren into the system of Pletl because 3.3 and 5 volts are widely used voltages for adapter cards.

- The modification would have been obvious because one having ordinary skill in the art would want to use 3.3 and 5 volts to power the connected cards since these voltages are very widely used in the art (figure 3 numerals 170 and 172).

10. Per claims 8, 19, 30, 41, 51, 61, Pletl does not disclose: The PC card control apparatus according to claim 6, wherein the power supply voltage switching circuit comprises:

- a power switching portion configured to issue a power supply control signal based on the detection signal
- and a first power switch configured to output to the PC card connector the first power supply voltage indicated by the power supply control signal from the power switching portion.

Art Unit: 2112

However, Maclaren discloses: The PC card control apparatus according to claim 6, wherein the power supply voltage switching circuit comprises:

- a power switching portion configured to issue a power supply control signal based on the detection signal (column 11 lines 49-52, figure 6 (detection signals are referenced in figure 3, numerals **140, 142, 143, 150, 152, 153**));
- and a first power switch configured to output to the PC card connector the first power supply voltage indicated by the power supply control signal from the power switching portion (column 11 lines 52-56, figure 6, and column 12 lines 11-13 specifies that each slot has its own power switch).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Maclaren into the system of Pletl to have a signal which could identify what voltage level a card should be powered at, and also the power system to read that signal and perform the power function.

- The modification would have been obvious because one having ordinary skill in the art would want to signal which could identify what voltage level a card should be powered at, and also the power system to read that signal and perform the power function (Maclaren, column 11 lines 49-52, figure 6 (detection signals are referenced in figure 3, numerals **140, 142, 143, 150, 152, 153**)) and (Maclaren, column 11 lines 52-56, figure 6, and column 12 lines 11-13 specifies that each slot has its own power switch).

11. Per claims 9, 20, 31, 42, 52, 62, Pletl does not disclose: the PC card control apparatus according to claim 8, wherein the power switching portion of the power supply voltage switching circuit is mounted on the PC card control apparatus and the first power switch is provided outside the PC card control apparatus.

However, Maclaren discloses: the PC card control apparatus according to claim 8, wherein the power switching portion of the power supply voltage switching circuit is mounted on the PC card control apparatus and the first power switch is provided

Art Unit: 2112

outside the PC card control apparatus (figure 3, power switching portion is within Decode Logic **200**; the first power switch **170**, is outside of the Decode Logic **200**).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Maclaren into the system of Pletl to allow for flexibility in the placement of the components.
- The modification would have been obvious because one having ordinary skill in the art would want to allow for flexibility in the placement of the components (Maclaren, figure 3, power switching portion is within Decode Logic **200**; the first power switch **170**, is outside of the Decode Logic **200**).

12. Per claims 11, 22, 33, 43, 53, 63, Pletl discloses. the PC card control apparatus according to claim 1, wherein amongst components of the PC card control apparatus at least the card detector (column 7 lines 2-5, figure 2), the interconnection switching circuit (column 7 lines 5-11, figure 2),

Pletl does not disclose: the power switching portion are integrated into a one-chip IC.

However, Maclaren discloses: the power switching portion (figure 3 numerals 170 and 172) are integrated into a one-chip IC.

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Maclaren into the system of Pletl to group the controlling functions relatively close to each other, which will better utilize free space and allow it to be connected more easily.
- The modification would have been obvious because one having ordinary skill in the art would want to group the controlling functions relatively close to each other, which will better utilize free space and allow it to be connected more easily (Maclaren, figure 3 numerals 170 and 172).

Art Unit: 2112

13. Claims 64-66, 68-70, 72-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pletl et al. U.S. PN 5,920,731 in view of Sun, U.S. Application No. 10/022,778.

14. Per claims 64, 68, 72, Pletl discloses: a passive-card-adapting card, comprising:

- a first card connector configured to be compatible with specific card standards for a first PC card and to connect the passive-card-adapting card to a PC card control apparatus (column 6 lines 11-14, figures 1 and 2)
- a second card connector configured to have a connection for connecting a second PC card compliant with a card standard different from the specific card standards for the first PC card (column 6 lines 44-45, figure 2 numerals 101 and 200);

Pletl does not disclose: a regulator configured to regulate a power supply voltage supplied by the PC card control apparatus in order to adapt the power supply voltage for the second PC card.

However, Sun discloses: a regulator configured to regulate a power supply voltage supplied by the PC card control apparatus in order to adapt the power supply voltage for the second PC card (paragraph 6, figure 1).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Sun into the system of Pletl to provide a way of scaling the available voltage down to the desired voltage.

- The modification would have been obvious because one having ordinary skill in the art would want to scale the available voltage down to the desired voltage (Sun, paragraph 6, figure 1).

15. Per claims 65, 69, 73, Pletl discloses: the passive-card-adapting card according to claim 64, wherein the first PC card standards include a PCMCIA standard (column 6 lines 11-12, figures 1 and 2).

16. Claims 66, 70, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pletl et al. U.S. PN 5,920,731 in view of Sun, U.S. Patent Application No. 10/022,778, in further view of Mowery et al. U.S. PN 6,898,766.

17. Per claims 66, 70, 74, neither Pletl nor Sun discloses: the passive-card-adapting card according to claim 64, wherein the second PC card is compatible with one of a USB2.0 bus interface and a PCIeexpress bus interface.

However, Mowery discloses the PC card control apparatus according to claim 1, wherein the second PC card is compatible with one of a USB2.0 bus interface and a PCIeexpress bus interface (column 4, lines 4-22).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Mowery into the system of Pletl and Sun to provide a larger number of bus standards, therefore allowing the invention to be compatible with more systems.
- The modification would have been obvious because one having ordinary skill in the art would want to have as many bus interface standards be compatible as possible to allow the invention to be compatible with as many systems as possible.

Allowable Subject Matter

18. Claims 10, 21, 32, 67, 71, 75 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter: claims 10, 21, 32, 67, 71, and 75 are deemed allowable over the prior art of record as the prior art fails to teach or suggest the following limitations.

1. to output in a predetermined time period a signal informing the first power supply voltage becomes stable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Misiura whose telephone number is (571) 272-0889. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571)272-3676. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Misiura
12/16/2005

[Signature]
REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
12/19/05